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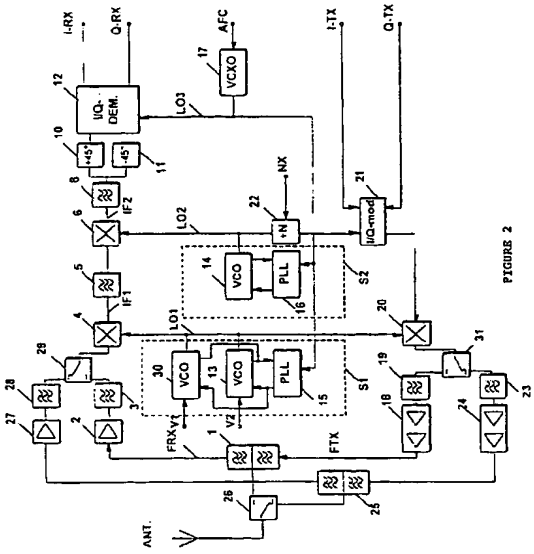
(54) A transmitter and/or receiver

(57) The present invention relates to a method and a radio frequency system for generating the frequencies for a receiver and a transmitter in a radio communication system operating on two different frequency ranges, and to a receiver and a transmitter operating on two different frequency ranges, whereby a first frequency synthesizer generates a first mixer frequency and a second frequency synthesizer generates a second mixer frequency, the reception frequency is first mixed in the first mixer to a first intermediate frequency by the first mixer frequency, and the first intermediate frequency is further mixed to a second intermediate frequency in a second mixer by the second mixer frequency, and whereby the transmission frequency of the transmitter is generated by mixing the transmitted signal in a third mixer up to the transmission frequency by the first and second mixer frequencies. The invention is characterized in that the first mixer frequency (LO1) in the receiver of the radio communication system operating on the first reception frequency range is made different from that in the receiver of the radio communication system operating on the second reception frequency range, and that both the first intermediate frequency (IF1) and the second intermediate frequency (IF2) in a receiver of the radio communication system operating on the first reception frequency range are made equal to those in a receiver of the radio communication system operating on the second reception frequency range. The invention also relates to the use of the methods and the radio frequency systems in a mobile phone.



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